13566

NATIONAL MUNICIPAL REVIEW

VOL. XI, No. 6 JUNE, 1922 TOTAL No. 72

MODERN CITY PLANNING

ITS MEANING AND METHODS

BY THOMAS ADAMS

Town Planning Consultant to the Dominion of Canada, Lecturer on Civic Design to Massachusetts Institute of Technology.

I. INTRODUCTION

SCRAWNY CITY PLANNING

WE plan our houses and factories. Is it not then absurd that we let our cities grow without plan?

Cities do not grow—all of them are planned. Most of them are planned in piecemeal fashion by surveyors acting for real estate owners, by railway engineers acting for their shareholders and traffic superintendents, and by individual architects or builders acting for their separate clients. The ultimate result is a haphazard collection of plans of land, means of transportation and buildings. But the city interests are not ignored, because every city has more or less power to control these separate plans in the interest of safety, health and convenience. Such control, however, is within restricted limits and the evils that arise from dealing with related parts and problems of the city, as if they were unrelated and disconnected, must remain in the absence of any planning of the city as a comprehensive whole.

Yet in as correct a sense as some houses or factories are planned—cities are now planned. As the lady planner in Sinclair Lewis' town of Gopher Prairie said—"the planning of many towns is not left to chance. It must have taken genius to make them so scrawny." It is the method of planning that is the fault—not the absence of planning. We want scientific and orderly planning—not scrawny planning.

NEED OF PRACTICAL METHODS

While the ideal we wish to attain by city or town planning is that of a more prosperous and wholesome life for the people, the methods adopted must be intensely practical. There is no real inconsistency between what are called the "long" and "short" view of things. The question is to have the right sense of proportion in regard to both. While we should aim high in ultimate achievement, we should not seek to build to-day beyond what we can complete and render useful with the materials we have. If a man has only sufficient money and materials to build a cottage he would be stupid to start the

building of a castle even if he thought he could ultimately find means and material for such a structure. We should, therefore, plan and build according to our needs but make the contribution of the day part of what we want to achieve to-morrow.

Having in view, therefore, the broad objects of the improvement of the city as a social organization wherein we wish to have healthy citizens and as an industrial plant wherein we want to have efficient working conditions, we should plan to get these things and not leave them to chance.

The first duty is to define a programme of what can be practically done and to avoid fads. One party will be interested in playgrounds, another in civic centres and beautification generally, another in what is called "zoning" for the purpose of stabilizing real estate values, another in traffic and another in housing. With all the special pleaders for different parts of a plan there will be constant difficulty to maintain a proper proportion and to look at the city as a comprehensive undertaking. The usual difficulty in getting a comprehensive plan is due to the lack of appreciation of the reciprocal relations between different factors in city development. It may be that in a certain city the question of grade crossing elimination is a most pressing problem and yet to attempt to solve it by itself may be to lose half the value of eliminating the crossings.

IS IT EVER TOO LATE TO PLAN?

It is no argument that "it is too late to plan." A city is a thing of growth. When a city ceases to grow, either in the quality of its structural improvements or in the quantity and quality of its population it will become a dead city. So long as growth continues, the need of planning prevails. It is equally idle to argue that no one can foresee exactly how the city will grow, and, therefore, any plan will be defective for lack of accurate foresight. There is no question that it is beyond the power of any man to plan a city exactly as it is going to grow. The best he can do is to bring to bear upon the problem accumulated knowledge and his art and the least he will accomplish will be to prevent the recurrence of mistakes, to give "vision" to the problems of the city and to show how the wasteful results of haphazard development can be avoided. The automobile has introduced new problems in city growth that make the present time specially appropriate for planning or re-planning cities and towns.

FUNDAMENTAL ELEMENTS AND SERVICES OF CITY

The three main problems in developing and planning a city are:—

(A) ECONOMIC CONDITIONS AND CONTROL OF LAND DEVELOPMENT

The method of laying out and regulating the subdivision of land, including the assessment of land values for taxation, and delimitation of areas for open space and agricultural use, has an important bearing on all problems of civic growth and the health and prosperity of the citizen. To secure economic development and healthy industrial and housing conditions, it is necessary to plan the land in large areas and regulate its use in advance of building.

(B) ADEQUATE AND PROPER FACILITIES FOR INDUSTRIES

These include convenience in development of land and the reservation of the most suitable sites for industrial plants; room for expansion, proximity of plants to homes, and efficient services.

(c) WHOLESOME HOUSING CONDITIONS

The city plan should secure pleasant surroundings for the homes; the restricting of areas for use for residences of different character; the encouragement of the ownership of homes; and the efficiency of those services necessary for health and recreation.

CITY SERVICES

The services which we require to make industry and homes prosperous and wholesome are (a) good sanitation (drainage and water supply), (b) convenience for transportation by railroad, waterway, etc., including railroad lines and terminals, (c) power and light, (d) communication by road including the major street plan and adequate provision for trolleys and vehicular traffic, (e) zoning or delimiting of areas to regulate the kind of use and the density and heights of buildings on the land, (f) the civic features or monumental structures which express the civic spirit of the community, (g) the parks and recreation grounds and the placing and grouping of schools and churches to serve essential social needs. No plan should be prepared which does not take into consideration these six groups of services, all of which are essential for efficiency and economy.

The efficiency of industry depends, for instance, not only on a good system of railroads and streets or on the proper relation between the industrial and residential area, or on recreation facilities for the employees and their children. It depends on the connection or relation established between these things by a properly balanced plan. The approaches to the railroad terminals have an important bearing on the location of the terminal. No one can determine the proper width of a street without regard to the height and density of buildings permitted to be erected upon their frontage, as well as the amount of traffic they have to carry. Even the character of the paving of a street cannot be settled without some study of whether it is to serve the purpose of industry or of residence.

SUITABLE AREAS FOR PLANNING

The following are suitable geographical units for planning:—

1. *The Region.* Comprising metropolitan areas or any large industrial or mining area having a distinctive character or a common centre, consisting of several municipal areas, or parts of such areas.

2. *The City.* The administrative area of an incorporated city.

3. *The Town.* In general a small city incorporated as a town but in some of the United States equivalent to a township or incorporated rural area forming part of a county.

4. *The Township or Rural Municipality.* A subdivision of a county, perhaps including small towns and villages.

5. *The Village.* Small populated place not having reached the status of a town.

What is called city planning and town planning may be said to have to do with one of these kinds of area. It is important that study be made of regional areas as it is only by the study of such areas that there can be a proper appreciation of the distribution of industry and of the interdependence of town and country. We hear much of city planning and something of country planning, but what is most wanted is the planning of the town-country which is comprised in the region.

The planning of the small growing towns and villages and the regional areas in which they are situated presents most scope and opportunity for effective work.

In America, the term "city planning" has sometimes incurred odium because it has been associated with

expensive remodelling of areas already built upon. It has also been too often regarded as being restricted to reconstruction schemes whereas it should deal to the greatest extent with the problems of new growth. To carry out surgical operations on areas already covered with buildings is a difficult and costly process. For instance, the widening of a street on which extensive office buildings are already erected or the creating of a new diagonal street through a congested area are operations that are almost prohibitive in cost. To apply the same amount of money to the work of prevention in areas in course of development or not already built upon is the cheapest and more effective method of planning. Moreover, the proper planning of suburban areas indirectly helps to relieve the congestion and lessen the difficulties of replanning the crowded centres which they adjoin.

II. THE METHODS OF THE CITY PLANNER

ORDER OF STUDIES AND PLANNING

Some writers suggest that transportation and zoning are the two factors that need to be considered first and that a plan of the park system and of the civic centre can be left to be dealt with at a later stage. In making this statement, they are suffering from the natural disappointment that has followed from the excessive emphasis that has been placed in the past on the park system and the civic centre. They are proposing, therefore, to go to the other extreme with a view to avoiding too many complications and are seeking to cut up the plan into water-tight compartments as if they could be separated. They cannot be separated if a good result is desired. At the same time, if a city must limit its operations to one or two things at a time, undoubtedly transportation and zoning are the two most necessary things to consider. In the judgment of the writer, however, the distribution of work should not be made between the different parts of a city plan but in the following order, namely:

1. Reconnaissance survey of the city *and surrounding region;*
2. Tentative skeleton plan of the *region* based on the survey;
3. City survey;
4. Complete working plan of the city adapted to the law of the state or province.

If a beginning must be made on a small scale, it should be made by making a survey of the existing conditions. This survey should not be too elaborate. A mistake can be made by aiming to make too complete an analysis of a city just as well as by omitting essential investigation. The most necessary things should be done for the purpose of getting a proper plan and the successful planner is the one who knows what to eliminate as well as what to include.

Then there are problems like railroad location and relocation regarding which it is idle to put forward a counsel of perfection. The most that can be done in this connection is to persuade the railroad engineers to fit their schemes in with the plan of the city. It is useless to propound a plan over their heads and to attempt to force the railroad companies to spend money for the benefit of the city if the expenditure produces no benefit to themselves.

RELATIVE IMPORTANCE OF CITY PLANNING AND "ZONING"

The most intricate problems in city planning are probably those which are

least popular and least spectacular. The "zoning" plans which are now being prepared for many cities require less specialized knowledge than the other matters which need to be dealt with and may involve the suppression rather than the exercise of imagination. To a large extent they depend for their successful application on intimate local knowledge. The zoning expert may have acquired the knowledge to present his data in an intelligent form. He may know the arguments to use to "put it over" with the citizens and he may have collected information in other cities which enables him to give valuable advice regarding the many cases that require special treatment. On the whole, however, a plan that is limited to "zoning" can be prepared by an intelligent city engineer with comparatively little expert assistance. But no plan should be limited to "zoning" and no "zoning" should be done with the main object of stabilizing real estates' values. A plan should increase real values and not stabilize unreal values based on speculation.

The principle of restricting a district to residential purposes is already recognized by private owners of land who frequently dispose of lots for the erection of houses under certain restrictions. These may fix the minimum cost of each dwelling or define the character of dwellings. The application of this principle has been more or less confined to houses of well-to-do people and has been mainly used to prevent small working-class dwellings or stores being erected in proximity to larger houses. In a sense, it has been based on class distinction and on the assumption that a comparatively cheap house erected adjoining a dearer one would have the effect of depreciating the value of the latter. What matters most, however, is not the amount of money spent in building a house but that the dwelling be tastefully designed, and have spacious and agreeable surroundings.

The control of the surroundings of homes by city planning regulations is more important than the fixing of a minimum cost. As the principle of restricting a residential district has been adopted in private covenants by owners of land, it is only extending an existing practice to impose restrictions on residential property by law. But under the law, a different method must be pursued. It would not be proper even if desirable to restrict the value of houses erected in a particular district by statute. Reliance must be placed, for the purpose of getting good conditions, on provisions governing the sizes of lots; the prevention of structures of an unsightly character; the securing of proper sanitary conditions and the limitation of height and use.

Cities need to have control of the subdivision and building development of land outside of their own boundaries or what is the same thing, the inclusion within their boundaries of areas of agricultural land.

Many cities find it difficult to incorporate outside areas because they have waited too long and allowed undesirable and insanitary forms of building development to take place over their borders. If they had taken in the land when it was used for agriculture they could have imposed restrictions which would have prevented wasteful and scattered development. Not having done so, they wait until the district is built up with scattered houses, in some cases without sewers or water or other local improvements, and they find that to take such districts it means the expenditure of large sums of money in bringing them up to the standards of the city.

On the whole, it is better either to take in land before it is subdivided or else to make it a condition on the occa-

sion of incorporation that the outside land shall be provided with proper sanitary services before it is added to the city. A third plan is to make it a condition of incorporation that no charge shall fall upon the city at large in respect of the cost of bringing up the standards of the outside area to the standards of the city.

Under the law of several states, cities and towns have been given power to control, in a measure, the subdivision of the areas adjacent to their boundaries.

APPOINTMENT OF CITY PLANNING COMMISSION

Before the work of selecting the area to be planned or of preparing plans is proceeded with, a city or town council should decide whether or not to appoint a city planning commission under the state law, if such a law exists. The objections to the appointment of a commission are not such as to counterbalance the great advantages to be obtained from having a body giving exclusive attention to the work, but its expenditures should be under the control of the city council.

EMPLOYMENT OF EXPERT ADVICE BY CITIES

The work of preparing a plan will probably involve the employment by the city of an expert consultant or group of consultants to collaborate with the city engineer. The expert should be engaged to direct the making of the preliminary survey as this is really part of the whole operation requiring continuous expert direction through all its stages. While an expert consultant is needed he should be employed on the understanding that the survey and plan are not to be his work but the joint work of the engineer and himself.

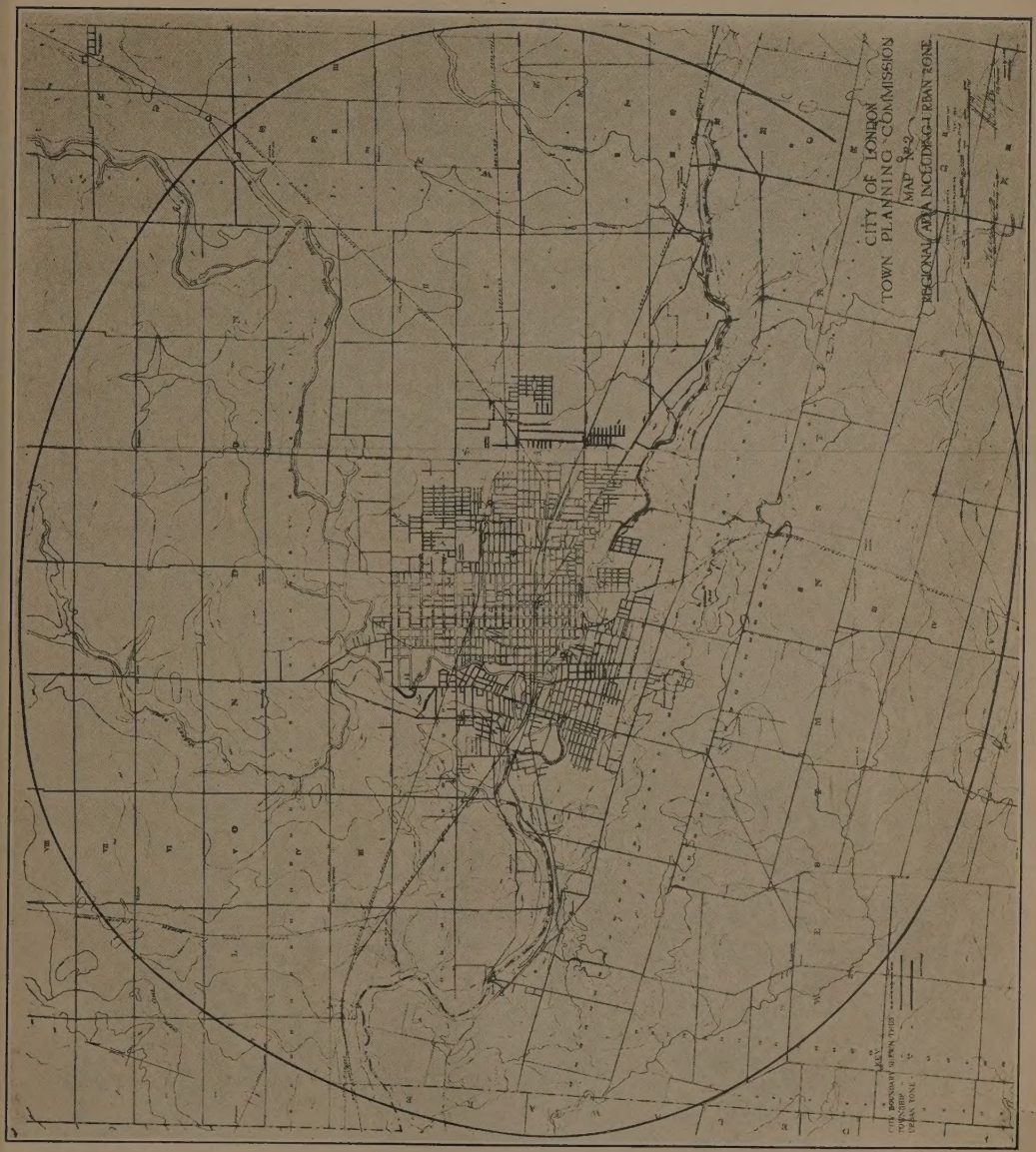
It is necessary to take full advantage of the knowledge of local conditions possessed by the engineer and also to make the engineer feel that he is to be given both responsibility and credit for preparing the plan. This is needed for the sake first, of economy in making the plan and second, of assuring that when the plan is prepared it will be sympathetically carried out by the man on the spot.

A good plan must be capable of variations to suit change of conditions, and is never complete. The continuous work of carrying out the plan and the important task of adjusting it from time to time to suit new conditions are matters that can only be dealt with by a permanent officer of the city working under the direction of the town planning commission. While, therefore, it cannot be questioned that valuable aid can be given by an expert consultant, who has made a special study of city planning over a long period of years, his services should be employed under circumstances which mean that he will collaborate with and not supersede the engineer.

No detailed guidance as to the methods of making a survey or plan in a particular city can be given, but a summary of matters to be studied is given in an appendix. Actual operations must be under some directing head. Methods of carrying out these operations will vary according to the qualities of the adviser and the local circumstances in each case.

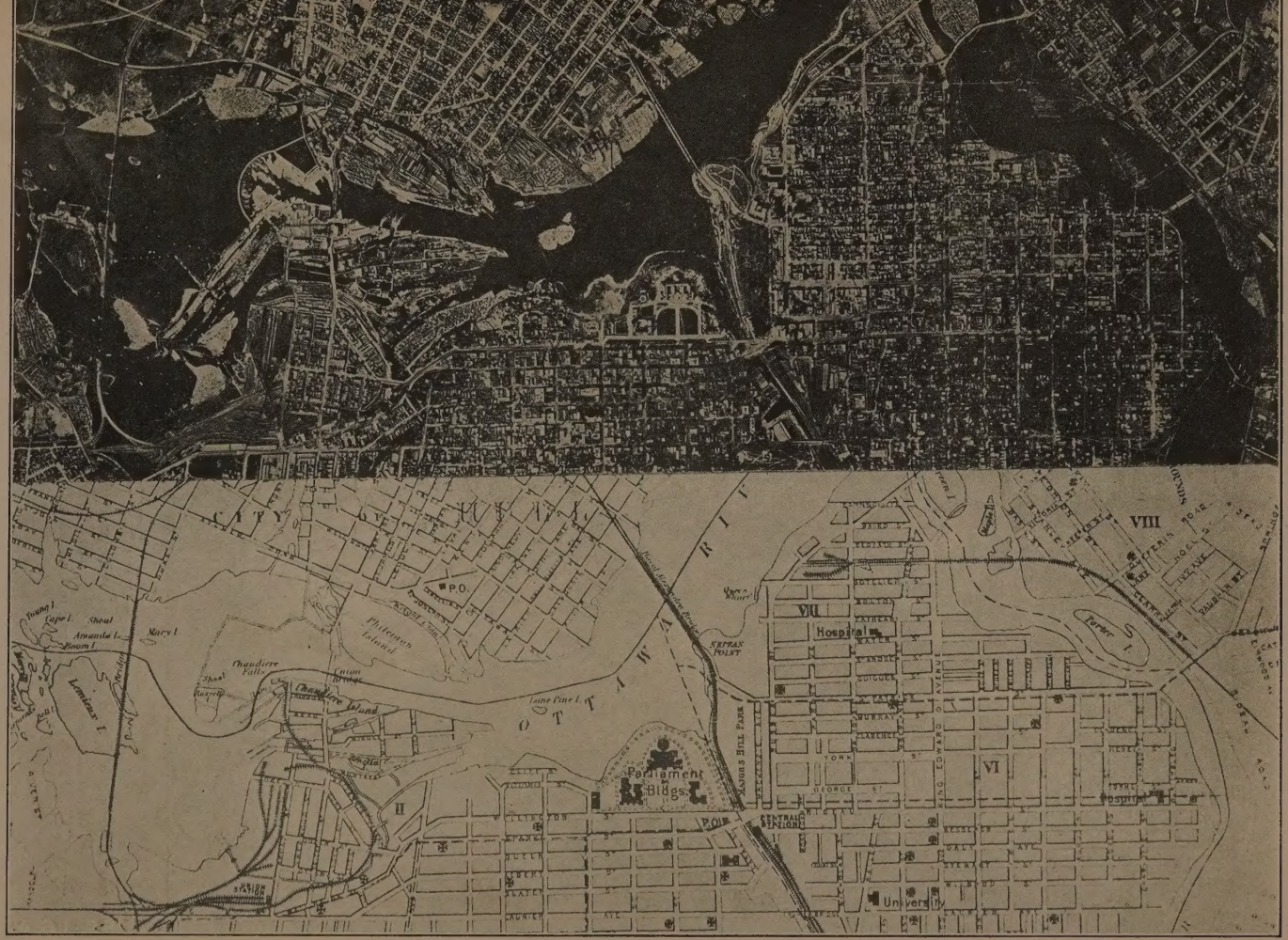
EXISTING MAPS AND DATA

The first practical work to be done in planning a city or town, after the appointment of a city planning commission, is to collect copies of the existing topographical and subdivision maps and other data available. Where federal maps on a scale of one inch to one mile are available, they should be obtained to show the city and surrounding region.



REGIONAL PLAN

Urban zone round City of London, Ontario, showing area within five miles being planned. Sub-divisions within the five mile radius must be approved by the City Plan Commission. All sub-divisions made to date that lie outside the city limits are shown on this map


CITY OF OTTAWA
P.O.
Parliament Bldgs.
Hospital
University
Chaudiere Falls
Chaudiere Island
Victoria Island
Lemieux I.
Nepean Point
Central Prison
Rideau Canal
Sussex St.
King Edward Avenue
Metcalfe St.
York St.
George St.
Queen St.
Wellington St.
Laurier Ave.
Somerset St.
Bay St.
Cooper St.
Albert St.
Slater St.
Gloucester St.
Lisgar St.
Maria St.
Catherine St.
Murray St.
Rideau St.
Besserer St.
Waller St.
Dalhousie St.
Parent Ave.
Cumberland St.
Dufferin Road
Dufferin Bridge
Victoria Island
Duke St.
Wellington

A second map should be prepared showing the city and adjacent metropolitan area or urban zone up to from three to five miles of the city boundary. This should be on a scale of 1,000 to 2,000 feet per inch. The main street and highway system, waterways, railways and other broad features in the development of the area should be drawn on this small scale map.

A map of the city area on a scale of from 200 to 400 feet to one inch showing the buildings and topography within the city should then be prepared, similar to the topographical survey map of the city of Baltimore. This should show the existing streets and blocks as accurately as possible and the levels of the land in the form of contour lines at five-foot intervals. With the aid of the insurance maps and special surveys, all buildings and other physical features should be added to this map. If this map is properly prepared it will give as good an idea of the distribution of the population as can be obtained in any other form and, at the same time, show the density of distribution of the buildings. It is more desirable to spend time on getting the existing buildings shown on the maps than on working out maps of population densities which are of comparatively little value in diagrammatic form when the character of the buildings is not shown.

There will now be three maps: Map No. 1 of the region, one mile to one inch; Map No. 2 of the city and surrounding urban zone, 1,000 to 2,000 feet to one inch; and Map No. 3 of the city, 200 to 400 feet to one inch. All subdivisions in the metropolitan area as well as in the city should be shown in broad outline on Map No. 2. On this map it is intended that a skeleton and tentative plan of the main highways, railways, parks and parkways (existing and proposed) should be drawn.

Where a city can afford the expense it will be of great value to have a special topographical survey map made of the whole city. Such a map will be of special utility in cities where there are considerable areas of undulating land. In some cases where there are exceptional difficulties caused by hilly ground, an accurate and complete survey of the city or part of it will be essential.

AËRIAL MAPS

A topographical map should also be supplemented by an aërial map. Aërial maps are of great value for town planning purposes, especially in visualizing the natural features and densities of buildings of the city. The Canadian Government, probably more than any other government, have recognized the importance of civil aviation as a means of mapping territory and the Air Board of Canada are giving assistance to other branches of the Civil Service and to cities in making mosaic sheets. Referring to this matter the annual report of the board for 1920 says:

> The value of such mosaics to the general public can hardly be estimated, as they will be far more easily read and understood than a map and infinitely more interesting. They are invaluable to the town planner and go a long way to solving most of his problems.

The aërial mosaic should not, of course, be relied upon for accuracy of measurement. A ground survey is necessary for this purpose, but the mosaic is a most valuable addition to maps prepared on the basis of an actual survey and should be obtained by cities for city planning and other purposes.

Preliminary Reconnaissance Surveys

Maps 1, 2 and 3 should be prepared at the same time as surveys of the region and city are made. In making

these surveys, it is essential to have clearly in mind the maximum use to which the knowledge collected can be put. The amount of money available will to some extent influence the character and scope of the survey. The following are among the points that should be borne in mind in approaching the survey:

(1) As already stated, the first question is the selection of the territory to be surveyed and planned. Where it is practicable under the law to ignore the arbitrary municipal boundary, careful attention should be given to the selection of the regional area. If the city boundary must be adhered to, it will probably be found that the best area is the total area of the city.

(2) In planning physical alterations within the territory, a constant balance has to be kept up between what are called the interests of the community and the interests of the individual.

(3) Different problems should be dealt with by specialists in each problem, a group of four specialists being desirable in ordinary cases—one dealing with railroad transportation and termini, the main highway system, street traffic, sewerage and water supply, distribution of power and light and other engineering problems; a second with the question of finance, particularly in relation to assessment and land values, and legal problems; a third with the general physical layout of the city, the park and recreation system, and a fourth the civic centre, and the control of building development. This group will usually include an engineer, a lawyer, a landscape architect and an architect.

The lawyer will not be a planner but a consulting member of the group. The other three will be responsible for the plan. One of the three should co-ordinate the work of all. The width and complexity of the field to be covered requires that at least three should be employed in the larger cities. One expert with the aid of competent local officials will suffice in the smaller cities and in towns. Care has to be taken not to endanger the plan by too much specialization and consequent lack of co-ordination.

(4) The city plan should have the effect of encouraging rather than of restricting growth. It must be elastic and capable of modification but only under conditions based on principles and not on local expediency. Even slight changes may cause injustice and should only be made with the aid of expert advice.

(5) The city officials and citizens should be definitely pledged to assist with the preparation of any plan so that their permanent co-operation may be assured.

(6) While the survey may be made to relate to different questions such as "zoning," or railways, with advantage, the final plan should be comprehensive and deal with all the features of city development.

(7) As in one sense city planning is control of the use and development of the land for the purposes of industry or residence, the system of assessment should be adjusted to conform to the restrictions affecting use.

(8) The present indiscriminate mixing of buildings destroys land values, but it is possible that too arbitrary a system of zoning might have the same effect.

(9) Too much detail should be avoided. Much that comes under the heading of city planning can be best dealt with in a building or housing ordinance.

(10) Buildings should diminish in depth from front to rear as they rise in height, but no standard can be recommended as every city requires special treatment.

(11) Limitation of the number of houses per acre is not usually practicable on this continent. Therefore, the lowering of density has to be obtained by limiting the amount of each lot that can be built upon. This is better than the fixing of the sizes of lots.

(12) In districts where it is practicable to make a partial regional survey, this should be done, even if the plan to be prepared has to be restricted to the area of a city or town. In any case, a complete city survey must be prepared as the basis for a city plan. While the maps to be prepared are generally the same in all cities, sometimes it is necessary to prepare different maps to suit different local conditions.

CITY SURVEY

After the survey and tentative skeleton plan of the region is made, a more ample survey of the city will be required.

Map No. 3, already alluded to, having been prepared will show the topography as precisely as practicable, the buildings, streets, boundaries of blocks and railways within the city. From the tracing of this map, a number of prints should be obtained by litho process so as to get a clear reproduction. Probably a dozen copies will be sufficient for most purposes. With the particulars thus obtained, the following colored cartoons should be prepared:—

Map 3 (a). Transportation map, showing existing railways, stations, waterways and harbors, markets, etc.;

Map 3 (b). Street services map, showing existing street railways and proposed extensions, water mains, sewers, power lines and different kinds of street pavement;

Map 3 (c). Street traffic map, showing main arteries and focal points, level crossings, street railway intersections, street collision points and (if census be taken of traffic) number of points with reference to figures in report. On this map lines should be drawn in color showing the areas within a quarter of a mile of any street railway;

Map 3 (d). Land valuation map, showing the assessed values of land in blocks at the different values per square foot or per foot frontage. Thus blocks $5 to $10 per square foot or $500 to $1,000 per foot frontage would be shown in one color and at $1 to $5 per square foot or $100 to $500 per foot frontage in another color;

Map 3 (e). Existing conditions map, showing the existing industrial, business and residential areas, parks and parkways, and sites of public and quasi-public buildings.

By careful presentation with a prearranged notation of colors and marking Maps 3 (a), 3 (d) and 3 (e) may be combined as one "existing conditions" map.

III. THE CITY PLANNER'S PROBLEMS

THE STREET AND TRANSIT SYSTEM

With the information available on the above maps, it will be possible to proceed to the next stage and prepare a plan of the city. The first matters to be considered are as follows:—

(a) Proposals for the alteration of railway trackage, questions of union terminals, removal of grade crossings and questions of levels in railway approaches involved.

(b) Arterial highways, their alignment, width and connections.

(c) Approaches from the centre of city and main means of communication to the railway termini and proposals for relief of traffic congestion.

(d) Questions of widening existing highways, erecting bridges or subways and creating by-pass roads and of relieving of traffic congestion by rounding street corners and widening at intersecting streets.

(e) Alternative proposals to (d) in regard to obtaining more traffic room in streets by placing sidewalks in arched ways through the buildings, building subways, rerouting street cars, etc.

In studying these problems the emphasis should be placed on obtaining results which will combine the greatest convenience and permanence without excessive cost. It is not always the most expensive scheme that is the best and a "radical" solution may be suspected if it happens to follow the line of least resistance and is put forward without a thorough consideration of more simple alternatives.

The planning of intervening areas (site planning) should as a rule be left to be dealt with by the local city planning commission acting in cooperation with the owners of real estate. The commission should, however, have certain principles drawn up for its guidance so as to secure that the intervening areas will be laid out with due regard to the general plan. Any proposed new highways should be correctly shown. Where there is an absence of accuracy, it will be necessary to provide for limits of deviation of the highways.

The general problems of circulation and traffic and of distribution of freight and supplies are among the most important to be studied. Too much expense is involved in the modern city in the moving of persons and in the distribution of supplies, owing to bad location and inconvenient approaches to the railway depots. On this continent, more attention requires to be given to rapid transit by trolley and street car than in Europe. The long distance railroad is not adaptable for local traffic. City streets in America have to handle much of the traffic by automobile truck that is handled by the smaller railroads in places like England.

The transit facilities have much to do with the problem of housing and the values which people have to pay for land as sites for dwellings. In considering the case of widening streets for purposes of rapid transit, the relative cost of trolleys, elevated roads and subways should be considered. The elevated roads cost over three times as much as the trolley, and the subway lines over ten times. Congested traffic is not a result of one thing such as a narrow street but is the result of defective planning of a city in a number of its features. Similarly, no one remedy is likely to be satisfactory. In some cases where a drastic remedy like widening a street seems to be necessary, a more simple operation like rounding the corners of the intersect-

ing streets may be sufficient, along with better control of the traffic. One of the most pressing problems of modern times is to find a means of decreasing the cost of distribution. This involves the study of markets in relation to the railroads and highways.

The street system may be broadly classified as consisting of main traffic arteries, major streets and minor streets, the latter being purely residential. The first would consist of those which form the main arterial system of the city and the links between the city and other populous centres. It should also include circular roads connecting up the radial lines so as to distribute traffic before it reaches the centre. The second would include all business and connecting streets in the city. The third would be mainly confined to residential districts. The desirable widths might be classified as follows: Main arterial highways, 80 to 120 feet wide; major streets and parkways, 60 to 100 feet wide; minor streets, 30 to 66 feet wide.

All forms of street or sidewalk obstructions should be prevented and the setback of buildings should be arranged so as to enable business premises to have their signs and other projections on their own property. All public garages should be set back at least 30 feet from the street line.

In the planning of the sewerage and water-supply systems, it is necessary to study these in relation to the highways, the topography of the land and the use to which the land is put, but the plan of these and other underground services should not be mixed up with the general plan of the city.

THE "ZONE" PLAN

The next stage in preparing the plan is to consider the question of "zoning." In "zoning," we have to deal with three kinds of regulations. First, restrictions as to use; second, as to height and third, as to the "area of occupancy" or the density of building per lot. A usual and not undesirable classification of uses is:—

(a) Heavy industrial and general purposes areas;
(b) Light industrial, including warehouses;
(c) Business, comprising retail trading, offices, banks, etc.;
(d) First residential district comprising detached and semidetached houses;
(e) Second residential district comprising in addition to detached and semidetached houses, duplex houses, apartments and small neighborhood business centres.

Residences should not be excluded from (b) nor light industries from (a). Public garages and billboards should be excluded from (d) and (e) by implication. Public buildings, churches, schools and houses used for professional purposes should be permitted in (b), (c), (d) and (e) but the areas in which they are allowed to be erected in (d) should be definitely defined on the plan. It might be arranged, if so desired, to exclude public buildings, churches, etc., from district (d), in cases where a majority of the inhabitants so decided.

With regard to height there is still room for a great deal of improvement in the public attitude towards the limitation of height of buildings. There should really be no restriction of height in business districts, subject to there being adequate open space and width of street surrounding the building. Height should not be governed by an arbitrary figure of a number of feet or number of storeys but by the relation between the open area adjacent to the building and the height. Different percentages should be adopted according to local conditions. Where

the area of lot occupancy in a business district is 100 per cent, part of the building should not be allowed to exceed one storey, and rear entrance from a back street or lane should be required. In the case of industrial and business buildings 90 per cent might be permitted to go up to a height equivalent to the width of the street where they front. Beyond that height the building should be required to be set back as it increases in height. In residential districts the heights should be limited to two and a half or three storeys in (d) and six storeys in (e) but in the latter case, the question of the amount of open space surrounding the building would determine the height permitted. The ideal is to secure a 45 degree angle of light to the front and rear walls of all buildings.

PARKS

The third stage consists in the planning of the open spaces, water fronts, architectural features, grouping of public buildings and where practicable, reservation of a productive agricultural belt. In this third stage the architect and the landscape architect are chiefly concerned. The existing and proposed parks and parkways should be mapped. The park system, consisting of parks, recreation grounds and parkways, should be studied in relation to the street and railroad system. The city should plan this system well in advance and maintain rural parks as well as city parks. They should not be less than three per cent and should if practicable be ten per cent of the area of the city and should form a connected system. Wedge-shaped parks are better than circular parks. Parks are essential to the preservation of the city as well as for the recreation needs of its citizen. A city may obtain revenue from a wild or natural park if it plants it with trees or grass for pasture and trains it as a productive park.

Each city should carry out a campaign in educating public opinion as to the commercial value of parks. Mr. Flavel Shurtleff in his book on "Carrying Out the City Plan" gives a table of the percentage of increase in the value of 943 park areas in New York between 1908–11. This showed that 19 parks increased in value over 2,001 per cent, 273 parks increased in value from 201 to 2,001 per cent, 154 from 25 to 154 per cent, and 91 less than 25 per cent.

The increase in value of the park areas themselves should be accompanied, if the parks are properly selected and planned, by an increase in the value of adjacent real estate. Indeed, it is profitable for large owners of real estate either to give parks or to submit to special assessment on adjacent land to cover their cost. Kansas City, Missouri, has had the greater part of the expense of its parks paid by special assessments on abutters in six park districts. A magnificent park system has thereby been built up at little cost to the city; and land owners compete with each other to secure parks for which they themselves must pay. The Board of Park Commissioners of Kansas have shown figures to prove that parks enhance values "in excess of the entire cost" and that constant pressure has been brought to bear upon the board for the extension of the park or boulevard system.

But care should be taken not to burden either the city or the real estate owners with more unproductive park area than is economical for the size of the city.

THE CIVIC CENTRE

The civic centre needs to be planned in connection with the other physical features of the city. In a sense, it

should be subordinate, because of the expense of constructing monumental buildings. It is bad for the public interest to erect extravagant structures. Most cities lack beauty, not because they lack public buildings but because of an untidiness arising from want of care in controlling the surroundings of the buildings they have. There is no reason, however, why a beautiful building should cost more than an ugly one. It is simply a case of getting the right kind of advice. The surroundings of the building are just as important as the building itself. They should be spacious, but not to an extent which will dwarf the building. There should be a relation between the space and the height and bulk of the building.

One important problem to be always considered in planning is the proportion of cost of improvements which should be borne by the city at large and the owner of the land. The Somers system of real estate valuation suggests the spreading of the cost on the basis that the frontager should pay the total for a sixty-foot street. This, however, is rather high. A forty-foot street is sufficient to meet the local needs of residential areas, and sixty-foot of industrial and business areas.

SITE PLANNING

As already indicated, it is undesirable for the attention of the city planner to be diverted from the consideration of the general city plan to detailed development of subdivisions. There will be occasion to deal with sub-divisions that occupy strategic sites or have some peculiarity which makes them important in relation to the general plan. For instance, it may be found that a subdivision is already laid out and registered in a position which occupies the best line of approach to the city by an arterial highway. In such a case, the city planner requires to bring all his powers of persuasion to bear upon the owner of the land to have the subdivision changed. It would probably be easy to convince such an owner that the change would be desirable in the interests of his property, but everything will depend on the way in which he is approached and the tact shown in bringing forward the advantages of the proposal.

In the course of preparing the general plan, the city planner should not ignore applications of owners to help him with the planning of their subdivisions. While it may be a mistake to initiate detailed work of site planning, he should be ready in all cases to accept opportunities to plan sites so as to fit them in with the general plan of the city.

In site planning, that is, the planning of small areas for industries or houses, the governing features may be said to be the relation between the street plan of the site and the main lines of communication of the city, adjoining or intersecting the property. Here we have to deal with the points of connection, the directness of route of the streets across the property, grade, best locations for crossing railways or rivers by bridges or subways. In considering directness of route in relation to grade, it is preferable to have easy curves rather than sharp turnings or jogs. This is particularly true in the case of the main highways. Connections with main arterial highways should be at right angles as far as practicable. In dealing with hilly land, it will often be found better to have steeper grades rather than side-cuts.

In planning minor streets, the planner should introduce varieties in the form of development such as quadrangles and small squares. An effort should be made to secure the subdivi-

sion of the corner lots so as to encourage those erecting buildings to have an orderly and pleasant treatment of the building elevations at the corners. Nothing condemns the orderly rectangular subdivision so much as the ugly effect which is produced by corner houses having their gables on the side street with long flankages not occupied by buildings. Road junctions require to be specially studied. Where roads meet at one point ample room must be given for distribution of traffic.

ALLEYS OR LANES

One of the important problems that will have to be considered is the question of alleys or rear lanes. There are those who advocate that rear lanes should be provided under all conditions and for all classes of building. There are those who condemn them unless they are paved and lighted in the same manner as the front street which practically makes them back streets. There are those who consider them as only being essential in business centres and crowded residential areas. It is impossible to lay down any rule regarding the desirability of having lanes. Everything depends on the local considerations. It is conceivable that even in a widely-scattered residential district, lanes would be desirable on condition that all the public services were placed in the lane. On the other hand, it should not be overlooked that the cost of making a street and a lane may be higher than the owner of the property can pay. We must recognize that a lane is only desirable when it has some form of pavement, is properly drained and is free from nuisance. It is the opposite of being desirable if it is used for dumping garbage or if, owing to laxity of control, habitable buildings are permitted to be erected upon its frontage.

The cost of providing lanes may be greater than the cost of providing extra frontage to enable the householder to get access to the rear of his property for vehicles by the side of his dwelling. If the cost of the side entrance does not greatly exceed the cost of providing the lane, it should be preferred in residential districts. A lane is not necessary for providing air space at the rear of buildings, whereas the side entrance for vehicles has the double benefit of giving access to the rear of the building and giving adequate light and air where it is most needed. There can be no question as to the need for lanes in districts where houses are erected in continuous rows or in areas where the lots are devoted to continuous business development.

DEPTH OF LOTS

Important considerations arise in connection with the depth of lots. When blocks of building land between streets are too shallow, the tendency is to use the whole depth for the business occupying the frontage on one street, thus making the frontage on the second street practically a back entrance. In such a case, the shallowness of the lots is a source of loss to the property owners because it is compelling them to use two streets where a street and a lane would have done. An example of a very good arrangement for a business section is shown in Craig's plan of Edinburgh. Here the main business streets of Princes Street and George Street have between them a narrow parallel street. This narrow street is used for second-class business and for rear access to the principal hotels and department stores on the main business thoroughfares. Although this narrow street is only about 30 feet wide and is therefore little more than a lane, it combines the uses of a secondary

business street and a lane, it is properly paved and lighted and is more economical than having a third street of full width or a narrow lane of no use except for rear access.

INTERSECTIONS

What should be the length of intersections between streets is not always easy to determine. One main street in a city has forty intersecting or tributary streets over a length of less than a mile. From the point of view of business, the number of intersections probably tends to increase the frontage that is available for business uses. Many people argue that numerous intersections are necessary to spread business off the one main thoroughfare into the side streets. On the other hand, when a street is used for street cars and these have to stop at every cross street, it becomes a serious objection from the point of view of rapid transit. These are matters which are, for the most part, settled when the original subdivison is made.

PRESERVATION OF TREES AND OPEN SPACES IN NEW SUBDIVISIONS

In the preparation of city plans, it is important to preserve sufficient trees, particularly in residential areas, to give a certain amount of furnishing to the area and to prevent the bare uninteresting effect produced by looking on a number of new buildings without any of the natural relief obtained from foliage. The advantage of trees for shade and to some extent as a protection against fire cannot be questioned. Every new subdivision should have recreation space to the extent of one acre for every 100 houses. In certain provinces of Canada, there is a regulation that requires that one acre in every ten acres be left as an open space and dedicated to the public. This is a good rule even if it cannot be applied consistently without some injustice. If a section of land is crowded thickly with buildings, it should have more open space than a section which is sparsely occupied. One acre in every ten means the provision of a playground to every fifty houses, allowing about five and a half houses to the acre. It is a good average, however, because as time goes on it will be easy to build 80 to 90 houses on nine acres.

If the general plan of the city includes provisions to prevent the erection of buildings on marshy or flooded land, these will automatically become part of the breathing space. Open spaces can frequently be provided on land that is not adaptable for building. The saving in construction of narrow roads next to open spaces is often sufficient to justify the loss of area of building land which results from providing these open spaces.

THE PROBLEM OF THE OUTSKIRTS

One of the tragedies of modern city life and the development of industrialism has been the conflict or aloofness that has grown up between the city and the country. We have ignored the fact that agriculture, as Gibbons says, is the foundation of manufactures. This is truer in modern times in a commercial sense than ever before. It is also true in the sense that physical and mental deterioration in the city has to be balanced by maintaining a healthy and vigorous race in the country.

Unfortunately in many country districts the conditions are productive of deterioration as much as in the crowded city. The proper ideal is to make the city more healthy by introducing more of the attractions of the country, and to make the country more healthy by extending to it more of the attractions of the city. The present tend-

ency continues, even politically, towards further conflict between city and country interests. Often the worst building development takes place in the rural areas surrounding large cities. The greatest difficulties of obtaining effective control of highways, sanitation and of land development are probably to be found along the fringes just over the boundaries of cities. The rural municipality, very often having the outlook of a purely farming population, regards the suburban excrescence of the city as an undesirable encroachment, even if it has the redeeming feature of bringing some added revenue. The rural council has not been accustomed to deal with that class of development and it leaves it uncontrolled or governed by rural standards, quite inadequate to meet urban conditions. On the other hand, the city looks upon the overflow into the rural territory as something to be discouraged because it naturally does not favor the loss of its inhabitants. For that reason, it avoids extending its water supply or its sewerage system to the outside areas when it can do so.

Thus the selfish interests of the city and of the country mean the neglect of the very territory that most needs planning and the laying down of the soundest conditions of development.

To make matters worse, the extension of cities takes place in a haphazard way and on no definite principle with the consequence that the township authority suspends improvements as long as it can in the hope that it will be able to escape its obligations altogether, while the city authority defers as long as possible any movements for extension.

The absence of a uniform state system of assessment is a further cause of trouble and it is round the question of assessment that the final battle is usually fought when the question of extending a city area comes up for consideration. The final result is usually a compromise giving the inhabitants of the rural area enjoyment of a fixed assessment for a period of years and saving the city some money for development. The general interests and welfare of the community are ignored in a struggle for the best financial terms. The making of regional surveys will perhaps help us to arrive at some better method of readjusting municipal boundaries in the interests of both the city and the adjacent rural territory.

AGRICULTURAL BELTS

Mr. John Irwin Bright has put forward a proposal* for developing productive belts around cities. Were this proposal followed up it would revolutionize town development in America and reëstablish a proper equilibrium between town and country. The significance of such schemes, and of movements leading to the creation of Garden Cities and Farm Cities, is that they are showing the way towards a new conception of the principles on which modern cities should be encouraged to expand. The productive agricultural belt or wedge will be as essential as the public park or playground in the city of the future. If the large modern industrial city is to be preserved from decay and disintegration when it grows still larger, it must develop a system of lungs on a greater scale than hitherto, and productive parks are more economical and practicable for this purpose than recreation parks. The needs of the population for open space and nature is greater than their needs for recreation space or than is practicable to provide on a non-productive basis. That is the reason for the significance

*Journal of American Institute of Architects, 1920.

of the Garden City plan with its agricultural belt.*

Many years may elapse before this idea takes a full hold, but it is not conceivable that future generations will be so blind to the evil tendencies of unrestricted expansion of congested urban areas as to reject the only effective solution. The control of the development of land is essential to this solution of the problem of congestion. Large areas of land near and within cities can be more economically used for agricultural production than for building, because their levels are such as to make the cost of conversion into building land and construction of local improvements excessive in comparison with the values they create for building purposes.

The fourth and final stage would consist in preparing the provisions of the scheme or the ordinance which is to give statutory effect to the plan and make it a workable instrument. This raises the question of the law in relation to planning of the city.

The law in relation to city planning has to do with the acquisition of land for public purposes, control of public utilities, water fronts, streets, erection and setback of buildings, traffic regulations, zoning regulations governing the classification and delimitation of areas of land for different uses, heights, and densities of buildings and other matters.

In the United States it has also to do with excess condemnation governed by constitutional amendment in different states and the statutes under them.

IV. CITY PLANNING LAW

EXCESS CONDEMNATION

Those who have advocated the use of excess condemnation of land have often been tempted to make the statement that it pays a city to acquire land in excess of its needs. There does not appear to be any case that can be pointed to as having produced a profit in money and it is doubtful if accurate figures can ever be obtained regarding such schemes. Unless indirect benefit can be obtained either in removing slums or in some form of convenience for the city sufficient to justify the cost of a reconstruction scheme, it cannot be justified on grounds of profit-making. It is conceivable, of course, that the owners of a block of land could make such a scheme profitable to the city and to themselves by co-operating with the city. When, however, the city has to expropriate under compulsory powers, the cost is usually too great to enable a return to be obtained from the improvement. It is often cheaper, however, to condemn whole properties than parts of properties.

SLUM CLEARANCE

The time will no doubt come in the newer countries like the United States and Canada when the growth of slum conditions will force the hands of the Governments and the Courts in providing methods to carry out schemes of slum clearance at a reasonable cost. Up to the present time, however, city planning in the United States does not place much emphasis on the improvement of housing conditions. In England the Town Planning Act is part of the Housing Act and it was introduced to help to solve the housing problem.

SPECIAL ASSESSMENTS

It seems to be generally agreed that the best way to obtain contributions

* Garden Cities of To-morrow, by Ebenezer Howard.

from owners of land towards public improvements is by means of special assessments levied on abutting and other benefited land to pay a portion of the costs of improvements such as roads, streets, sewers, mains, etc. Assessment statutes in the States permit these special assessments up to the amount of the benefit received by the land, subject to some minor limitations. Assessments in Cincinnati, for instance, range all the way from 0 to 98 per cent. An important consideration in American legislation is to use to the fullest extent the principle of local assessment for local improvements (see Proceedings City Planning Conference 1912, p. 43).

The prevailing rule, although subject to exceptional application in many cases, in regard to the taking of land by the community is that the community has to pay its value regardless of the improvements and regardless of any benefit accruing to the remainder of owners of property. If, however, the owner claims damages to this remainder by reason of the taking of some of property then, according to authorities, in the calculation of these damages to be paid him, there is taken into full account any special benefits that will accrue to this remainder by reason of the improvements. The theory is that the constitution imposes a money compensation for the land taken and therefore the community cannot require the owner to take some of the compensation in the shape of benefits to his remaining land; that where, however, he claims compensation for damages, the damages may consist of a difference between the harm done and the special benefit given to the land not taken.

RESTRICTIONS

The following matters may be regarded as proper subjects for restriction under the police power:—

1. Billboards, while they cannot be directly prevented under the police power, can be made subject to restrictions in the interests of public safety, health and morals, or they may be indirectly prevented by limiting the structures that can be erected in a district of private residences.

2. Prohibition of noxious trades comes well within the powers.

3. Restriction of height of buildings so far as it is a measure of safety.

4. Prescribing density of building on lots is constitutional if for the promotion of health and safety.

5. Building of dwellings on unhealthy areas is a health matter and therefore controllable.

It is doubtful whether the creation of residential zones is entirely constitutional but it is legal to prevent factories which are offensive, stables, blacksmith shops, foundries, etc., from being erected in residential neighborhoods. Thus the law is that factories can be kept out, not because they are factories but because they are offensive for some reason.

MAKING NEW STREETS CONFORM

Neither in the United States nor Canada can the public authority define any tract of land as a street after the original concessions are granted. What they may do is to require that an owner of land who is planning a subdivision shall submit his plan for approval to the city planning commission. The powers relating to this matter seem to be less in the United States than in Canada for Mr. Bettman points out that most of the courts in the United States would decide that the community cannot impose any particular form of lot lines or subdivision. He states, however, that indirectly the same thing can be accomplished, for no street can be made a public highway with a legal status without its accept-

ance by the public. The community can always withhold acceptance unless the street is located as provided in its plan. It may also prevent congestion by requiring the number of inhabitants or structures to be limited in a given territory subject to this requirement being reasonable under the police power.

V. CENTRAL ADMINISTRATION OR SUPERVISION OF LOCAL PLANNING

In all these matters it is of great importance to have in each state, as in each province in Canada, advisory town planning commissions to assist and co-operate with the cities to investigate problems and assist in framing proper legislation.

A particular value of such a state city planning bureau would be to assist small municipalities that are not in a position to employ men of skill and are frequently led into error and wasteful expenditure. The problems of such municipalities have a likeness and there is a constant recurrence of the same errors in connection with their solution.

The previous paragraph raises the important question of what is the proper relation of a state or province to a city in connection with town planning. It may be regarded as essential to have some form of state or provincial administration of city planning because part of its object is to control and regulate the use and development of land for any purpose. The laws governing the ownership of land and the rights of eminent domain in English-speaking countries are very largely derived from the same origins and based on the rights of property. In the United States and, to a smaller degree in Canada, there has been, during late years, a reaction against state or provincial interference with city government. In some of its aspects this reaction is the result of a healthy desire on the part of citizens to shoulder greater responsibilities and it is the outcome of a democratic spirit. There are, however, two sides to the question, and, properly stated, this should be not whether the city should have home rule but what is the proper balance of power which should be established between the state or province and the city.

The setting up of town planning commissions in cities appears to be more effective in securing results where these commissions have central expert bodies in the state or province from which they can obtain guidance. Unquestionably the Local Government Board in England—now the Ministry of Health—has contributed largely to whatever success may have been achieved in town planning in that country. But in this case the form of central administration was that of an expert authority and not a body of untrained citizens. In Saskatchewan the Minister of Municipal Affairs, with the assistance of a director of planning, exercises the same powers and few citizens would be likely to take advantage of the Town Planning Act without the presence of that central organization. In Alberta and Nova Scotia little town planning progress has been made outside of Calgary and Halifax because of the absence of any provincial administrative machinery.

Future town planning legislation in Canada will probably have to give added powers to cities but it will be a misfortune if this destroys the interest of the province in connection with town planning. There are areas adjacent to all cities and towns which can only

properly be controlled under provincial jurisdiction.

In the United States, the strength of the movement in favor of more home rule makes it difficult to get appreciation of the value of state assistance in city planning. This movement is the result of political and other conditions, amongst which is the fact that the rural members control the state legislatures and have the rural point of view concerning municipal problems. Most American cities would object to any requirement that a plan in its various details should receive central state approval. Moreover any proposal to set up a Department of Municipal Affairs in those states that have adopted constitutional home rule would be unconstitutional. For instance, in Ohio, cities may, by drafting and adopting a home rule charter, exclude state control except in certain particulars.

The setting up of a state or provincial advisory department in the state or province, however, need not mean an interference with local power. Its value in bringing about co-operative action between the city and its suburban neighbors and satellite communities around it would be very great. It is essential for purposes of regional planning. It would also be useful in securing uniform procedure in regard to building ordinances or by-laws in coordination of system under which the highways and housing are administered. Highways link up communities and do not separate them. There can never be effective highway improvement unless it is dealt with in large geographical areas. Bad housing and improper sanitation are more needed to be controlled in the areas adjacent to and outside of the city than within the city, and city planning, in its proper sense, must be comprehensive enough in respect of area to disregard arbitrary municipal boundaries. More home rule for cities is not inconsistent with obtaining uniformity of law and procedure with the assistance of essential state and provincial departments in regard to highways, housing and town planning.

It is pointed out by American authorities that Boston has readily accepted state administration of a number of Boston problems more willingly than most cities. It is claimed that this is because Boston occupies such an important position in Massachusetts and is unlike those cities that are subject to state legislatures with a predominantly agricultural representation.

Mr. Bettman points out that, on the other hand the Ohio Legislature is largely representative of the rural districts. Rural legislatures are not conscious of the difficulties involved in solving modern municipal problems. He admits that the combination of city and state will be stronger to resist obstructive legal power in respect of private property, but points out that conflict between the state and city is just as likely to occur as co-operation. He agrees that state city planning commissions should be set up but should not be given veto powers of all local schemes. They should furnish expert advice.

An example of such a department which should be widely copied by other states is to be found in Pennsylvania where the State Bureau of Municipalities acts in an advisory capacity regarding city planning.

APPENDIX

REGIONAL AND CIVIC SURVEY; SUMMARY OF MATTERS TO BE STUDIED

I. EXISTING ORGANIZATION AND AVAILABLE DATA

(1) *Local Government.* State laws in relation to city planning, building codes, etc.; provisions of city charter; existing ordinances governing fire, building construction, streets, etc.; continuity of administration of council or commissions.

(2) *Reports of Previous Surveys and Other Data Available.* Surveys of social or industrial conditions; statistics of population at different periods; tax rate; financial conditions.

(3) *Maps.* Maps of city engineer; railway maps; street railway maps; small scale topographical map of region; blue prints of recorded sub-divisions not shown on city maps; underwriters' maps showing buildings.

II. FUNDAMENTAL ELEMENTS IN CITY GROWTH

(1) *Land System.* Original forms of ownership and division plans of land; influences of original plans on city sub-divisions; typical lot and block dimensions; effect of lot or block sizes on character of dwellings and business premises erected; effect of land speculation on values; what relation the values have to value of improvements; community created values; system of assessment and taxation; assessment for benefits; methods of apportioning cost of local improvements; wherein there is need for better method of assessment and taxation and control of land to promote economic use; relations between city and country districts; regional problems.

(2) *Industrial Growth.* History of industrial growth within the region and particularly within the city; its origins; influences that have promoted or retarded growth of industries; location and distribution of manufacturing plants and wholesale warehouses; opportunities available for future development.

(3) *Homes.* The character of the homes; local types of dwellings; psychology of people; educational opportunities; existing sanitary arrangements; evidence of healthy or unhealthy conditions; vital statistics, etc.; directions in which improvement of surroundings and general housing conditions can be made.

III. PHYSICAL PLAN AND PUBLIC SERVICES

(1) *Means of Communication and Distribution*

(a) Railroads and their termini; electric railways; problems of railways in streets; grade crossings; street approaches to stations; statistics of local passenger and freight traffic; facilities for transit between homes and places of employment; position of markets.

(b) *Highways and Streets.* General street plan; arterial highways and major and minor streets; widths and laws governing them; how adapted to configuration of land and needs of traffic; relation of widths to height and bulk of buildings; grades; proposed widenings, openings or extensions; traffic circulation; street system and fire prevention; trolley lines in streets; building lines; encroachments on streets and sidewalks; points of collision and areas of congestion; traffic regulation; extent of permanent pavements and sidewalks.

(c) *Waterways, Docks and Ferries.* Connections with railroads; street approaches.

(2) *Power Supply.* Sources and distribution; facilities for extension.

(3) *Building Development.* General distribution of buildings; residence, business and industrial areas; sizes of lots in relation to type and character of buildings; alleys and how used; private restrictions; tendencies in regard to character of dwellings—detached, semi-detached, two deckers, rows or tenements; building on rear yards; typical widths of frontages; position of public garages and oil filling stations; relation of building ordinances to city planning ordinances.

(4) *Water Supply and Sewerage.* Extent of building area served; vacant lots served; source of water supply; pressure for fire purposes; separate or combined system of sewerage; sewage disposal; stream pollution.

(5) *Civic Art.* Placing of public buildings; need of grouping public buildings and control of surroundings; street approaches; relation to street system; convenience of location.

(6) *Parks, Public Recreation and General Amenities.* Shade trees in streets; policy of planting; areas of parks, etc., in relation to population; children's playgrounds; rural park system; connecting boulevards; use of parks; management of park system; encouragement of athletics; accessibility; indoor facilities for recreation; private parks; garbage dumps; protection of water fronts; location of cemeteries.

(7) *Educational and Other Quasi-public Buildings.* Location of schools; school playgrounds; social centres; hospital sites.

CITY PLANNING AND ZONING

A COMPREHENSIVE BUDGET OF PAMPHLETS
ON CITY PLANNING AND ZONING

Sold at Cost Price

$1.50

Contents of City Planning and Zoning Budget

(Giving price of pamphlets when sold singly)

Modern City Planning, by *Thomas Adams*	50c
The Law of the City Plan, revised 1922, by *Frank B. Williams*	25c
Zoning, revised 1922, by *Edward M. Bassett*	25c
Law of Zoning, by *Herbert S. Swan*	25c
Special Assessments (Means of financing municipal improvements) by Committee on Sources of Revenue, National Municipal League	25c

Books in National Municipal League Series

City Planning, by *John Nolen*	$2.60
Town Planning for Small Communities, by *Chas. S. Bird, Jr*	$2.85
Satellite Cities, by *Graham R. Taylor*	$2.60

General inquiries from the public on City Planning and Zoning are handled through this office.

National Municipal League

261 Broadway **New York City**

JUN 28 1922

CHAS. BROSSMAN
Mem. Am. Soc. C.E. Mem. Am. Soc. M.E.
Consulting Engineer
Water Works and Electric Light Plants
Sewerage and Sewage Disposal
Merchants Bank, Indianapolis, Ind.

GOVERNMENTAL SURVEYS on Problems of Organization—Methods—Administration—Salary Standardization—Budget Making—Taxation—Revenues—Expenditures—Civil Service—Accounting—Public Works
J. L. JACOBS & COMPANY
Municipal Consultants and Engineers
Monadnock Building, Chicago
(Over 11 yrs.' experience in City, County and State Studies)

PROPORTIONAL REPRESENTATION
Best Basis for the City Manager Plan
Send 25c for Lft. No. 10 (How P. R. Works in Sacramento) and new Lft. No. 5 (Explanation of Hare System of P. R.) Still better, join the League. Dues, $2, pay for quarterly **Review** and all other literature for year.
PROPORTIONAL REPRESENTATION LEAGUE
1417 LOCUST STREET, PHILADELPHIA

R. HUSSELMAN
Mem. Am. Soc. C. E. — Am. Assn. Engrs.
CONSULTING ENGINEER
Design and Construction of Electric, Water Works and Filtration Plants. Public Utility Rate Investigations and Appraisals.
CUYAHOGA BLDG. CLEVELAND, OHIO